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A PROPOSAL FOR ESTABLISHING TASK ORIENTED BENCHMARKS FOR TEXT UNDERSTANDING SYSTEMS		PROJECT NO.	
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**A PROPOSED PLAN FOR ESTABLISHING
TASK-ORIENTED BENCHMARKS
FOR TEXT UNDERSTANDING SYSTEMS**

**BETH SUNDHEIM
NAVAL OCEAN SYSTEMS CENTER**

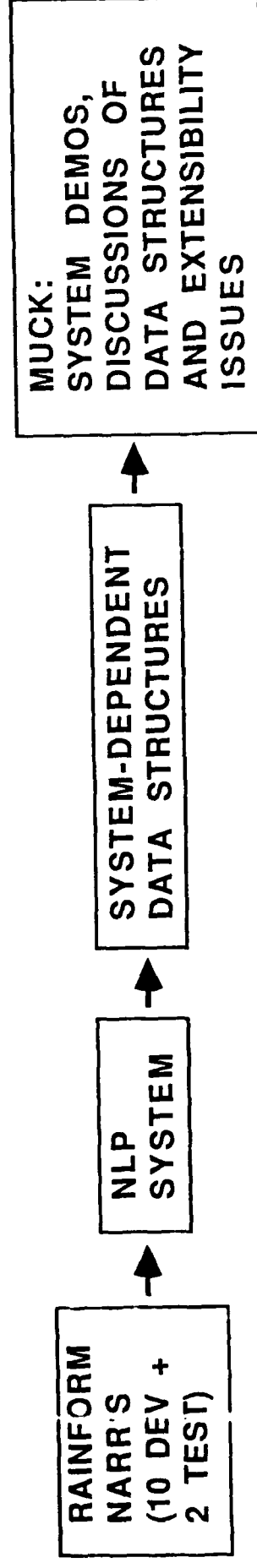
**NL SYSTEMS EVALUATION WORKSHOP
PHILADELPHIA, PA
8-9 DECEMBER 1988**

The DESIGN OBJECTIVES

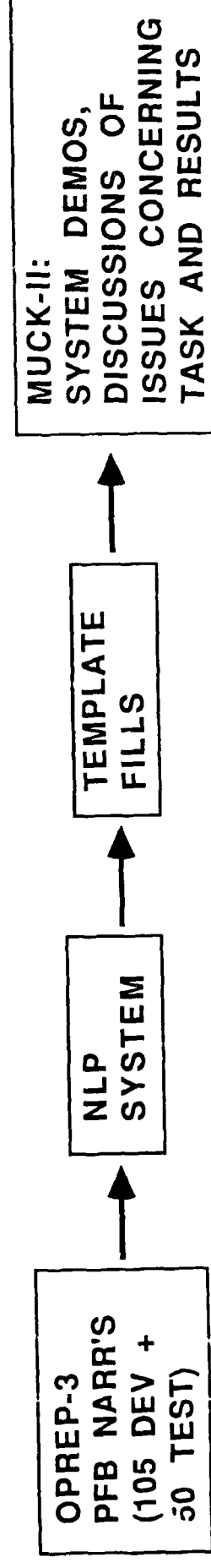
- 1-● RESTRICTED, HIGH-INTEREST DOMAIN;
- 2-● SIZEABLE CORPUS IN ONE MESSAGE FORMAT;
- 3-● REASONABLE TASK WITH WELL-DEFINED OUTPUT REQUIREMENTS
- 4-● TASK FOCUSED ON TEXT UNDERSTANDING

PREVIOUS AND CURRENT EFFORTS

1987 -- EXTENSIBILITY OF TEXT UNDERSTANDING SYSTEMS



1988-89 -- BENCHMARKING NL UNDERSTANDING SYSTEMS



**SIMULATED OPREP-3 PFB MESSAGE
(BASED ON DATA FROM NOSC TD 1060
AND OPNAVINST 3100.6D)**

**Z 222157Z DEC 00
FM USS PETERSON**

OPREP-3 PINNACLE/FRONT BURNER/N03361/001

- 1. INCIDENT. ATTACK ON HOSTILE SUBSURFACE**
- 2. CDR'S ESTIMATE. CONTINUING MISSION**
- 3. REFERENCE. NONE**
- 4. DETAILS.**

A. TIME. 222118Z DEC 00

B. LOCATION. 1000N1 - 10000W1

**C. NARRATIVE. VISUAL SIGHTING OF PERISCOPE AND RADAR CONTACT,
SONAR ACTIVE CONTACT. OPENED FIRE WITH 51 54 GUNS - 16 ROUNDS
EXPENDED CONDUCTED URGENT ATTACK WITH BLOODHOUND.**

5. LOSS/DAMAGE. UNKNOWN

**6. REMARKS. DARKNESS PRECLUDES SIGHTING DEBRIS. AMPLIFYING INFO TO
FOLLOW.**

INPUT VERSIONS OF MESSAGE NARRATIVES

1. BASIC FORM (VERBATIM NARRATIVE LINE)

#2-40

VISUAL SIGHTING OF PERISCOPE AND RADAR CONTACT, SONAR ACTIVE CONTACT. OPENED FIRE WITH 5IN 54 GUNS - 16 ROUNDS EXPENDED CONDUCTED URGENT ATTACK WITH BLOODHOUND.

2. MODIFIED FORM (BASIC ELIDED ELEMENTS SUPPLIED; SPELLING AND PUNCTUATION CORRECTED; EQUIPMENT TERMS REGULARIZED)

#2-40

A VISUAL SIGHTING OF A PERISCOPE WAS MADE BY USS PETERSON, AND RADAR CONTACT AND SONAR ACTIVE CONTACT WERE GAINED.

**PETERSON OPENED FIRE WITH 5/54 GUNS.
16 ROUNDS WERE EXPENDED.**

PETERSON CONDUCTED AN URGENT ATTACK WITH A BLOODHOUND.

OUTPUT TEMPLATE AND FILL

0
1
2
3
4
5
6
7
8
9
10

MESSAGE ID
EVENT: HIGHEST LEVEL OF ACTION
FORCE INITIATING EVENT
CATEGORY(S) OF EVENT AGENT(S)
CATEGORY(S) OF EVENT OBJECT(S)
ID(S) OF 0-TH LEVEL AGENT(S)
ID(S) OF 0-TH LEVEL OBJECT(S)
INSTRUMENT(S) OF 0-TH AGENT(S)
LOC OF OBJECT(S) AT EVENT TIME
TIME(S) OF EVENT
RESULT(S) OF EVENT

#2-40
ATTACK
FRIENDLY
SURF
SUB
[USS PETERSON]
NO DATA
5/54 GUN, BLOODHOUND TORPEDO
NO DATA
NO DATA
NO DATA

EXPECTED RESULTS

<u>MEASURE</u>	<u>MEANS OF CALCULATION</u>	<u>INSIGHTS GAINED</u>
"RECALL"	PERCENT TEMPLATES AND SLOTS FOR TEST SET FILLED THAT SHOULD BE FILLED	1) COVERAGE OF ENGLISH; 2) DEPTH OF UNDERSTANDING; 3) ROBUSTNESS
"PRECISION"	OF THOSE SLOTS CORRECTLY RECALLED FOR TEST SET, PERCENT CORRECTLY FILLED	
"GENERALITY/ POTENTIAL"	COMPARISON OF RECALL AND PRECISION MEASURES FOR DEVELOPMENT VS TEST SET	1) GENERALITY OF SOFTWARE; 2) POTENTIAL FOR HANDLING NOVEL TEXT
"UTILITY"	RECALL AND PRECISION MEASUREMENTS USING ORIG NARR'S AS INPUT (VS MODIFIED NARR'S)	ABILITY TO HANDLE TELEGRAPHIC, ILL-FORMED TEXT AND SUBLANGUAGE CONSTRUCTIONS
"PROGRESS"	RESULTS USING FIRST TEST SET VS RESULTS USING SECOND TEST SET	PACE AT WHICH STATE OF THE ART IS ADVANCING

MATERIALS IN PREPARATION

- NARRATIVES:
 - SANITIZED ORIGINALS, WITH AND WITHOUT MODIFIED VERSIONS
- REPORT ON CORPUS:
 - COMPLETE, SANITIZED MESSAGES
 - GLOSSES
 - GLOSSARY OF TERMS
 - CATEGORIZATION OF AGENTS AND INSTRUMENTS
 - TERMINOLOGY FOR CATEGORIES
 - CHARACTERISTICS OF AGENTS AND INSTRUMENTS
 - BACKGROUND INFORMATION ON DOMAIN AND NAVAL MESSAGES
- REPORT ON TEMPLATES:
 - TEMPLATE FILLS FOR DEVELOPMENT SET
 - "COREFERENCE" TABLE OF NOMENCLATURE
 - BACKGROUND INFORMATION
- DEVELOPMENT SET AIDS:
 - KWIC CONCORDANCE
 - WORD FREQUENCY LIST

PROPOSED SCHEDULE

1 MAR 89

DISTRIBUTION OF DEVELOPMENT PACKAGE TO
MUCK-II INVITEES

1 MAR - 30 APR 89

NOSC PERSONNEL AVAILABLE FOR CONSULTATION
ON OPREP-3 PFB AND TEMPLATE FILLS FOR
DEVELOPMENT SET

1 MAY 89

DISTRIBUTION OF FIRST TEST PACKAGE TO MUCK-II
INVITEES

6-7 JUN 89

MUCK-II

TWO GENERAL OPEN QUESTIONS

- IS TASK DOABLE ENOUGH IN THE TIME ALLOTTED THAT SIGNIFICANT RESULTS CAN BE OBTAINED?
- IS TASK DESIGNED WELL ENOUGH THAT RESULTS WILL TRULY MEASURE SYSTEMS WITH RESPECT TO THE DESIRED EVALUATION CRITERIA?